

REMARKS

Claims 14, 15, 27, 34, 36-38, and 45 are amended herein to correct minor informalities and/or to make the form of the claim more consistent, without narrowing the scope thereof.

§102 Rejections

The Examiner rejects claims 1-25, 26-31, and 39-52 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 6,072,993 to Trikha et al., herein referred to as "Trikha." After carefully reviewing Trikha and the rejected claims, Applicants request reconsideration.

Trikha discloses a single portable radio transceiver selectively connectable to either an internal antenna, i.e., handheld antenna (104), in a handheld mode, or to an external antenna, i.e., a car antenna (102), in a car mode (Figure 1 and column 3, lines 32-48). As described in column 3, line 64 through column 4, line 22 and illustrated in Figures 1, 3B, and 4B, the Trikha radio transceiver only operatively connects to one antenna at a time. Specifically, when in handheld mode, all switches (116, 118, 120, 122) are open; as a result, only the handheld antenna is operatively connected to the radio transceiver in handheld mode (column 3, lines 64-66, Figure 3B). When in car mode, all switches (116, 118, 120, 122) are closed, operatively connecting the car antenna to the radio transceiver and shorting the handheld antenna to ground (column 4, lines 21-22, Figure 4B). As is well understood in the art, shorting the handheld antenna to ground operatively disconnects the handheld antenna from the radio transceiver.

Trikha also makes a very clear distinction between the external antenna and the handheld antenna. "The handheld mode of operation is understood to mean the wireless telephone application in which the telephone uses its own (so-called 'on board') antenna and battery that are included in the telephone unit itself; while the car mode of operation is understood to mean the wireless telephone application in which the telephone uses other antenna and battery" (column 3, lines 34-40). "The 'handheld antenna' refers to the antenna on the telephone unit itself, while the 'car antenna' is the antenna other than the handheld antenna" (column 3, lines 44-48), such as the

antenna associated with a car. An adapter may be used to connect the wireless telephone to the car antenna" (column 3, lines 41-42). Anyone well versed in the art will appreciate that a significant distance necessarily separates the two antennas of Trikha. Further, Trikha makes it clear that only the handheld antenna is part of the wireless telephone unit.

In summary, there are two important things to note about Trikha's disclosure. First, Trikha's invention allows only one antenna, either the car antenna or the handheld antenna, to be operatively connected to the signal circuit at any given time. Second, because the car antenna is an external antenna, a significant distance separates the car antenna and the handheld antenna.

Independent claims 1, 26, 39

The invention claimed in amended claim 1 comprises a multiple antenna system with "a first signal circuit operatively connected to a first antenna via a first signal path and a second signal circuit simultaneously operatively connected to a second antenna via a second signal path" (emphasis added).¹ In direct contrast, Trikha only describes one antenna operatively connected to the radio transceiver at any given time, as discussed above. Nowhere does Trikha teach or suggest operatively connecting both the car antenna and the hand-held antenna to the radio transceiver at the same time. Because Trikha does not teach or suggest operatively connecting a first antenna to a first signal circuit and simultaneously operatively connecting a second antenna to a second signal circuit, as claimed in claim 1, Trikha cannot anticipate independent claim 1.

Claim 26 likewise includes "a first antenna operatively connected to a first signal circuit and a second antenna simultaneously operatively connected to a second signal circuit." Therefore, for reasons similar to those give above for claim 1, Trikha cannot anticipate claim 26.

Further, claim 39 includes the additional limitation of "a second antenna disposed proximate the first antenna to within approximately one wavelength or less" (emphasis added). In direct

¹ Note that a signal circuit operatively connected to an antenna in Applicants invention may be active or inactive, depending on its state, but the signal circuit is operatively connected to the antenna when the circuit is in either state.

contrast, significantly more than one wavelength separates Trikha's car and handheld antennas. Because an antenna disposed on a car is clearly located more than one wavelength away from an antenna disposed in a portable device, Trikha cannot teach or suggest the limitation of a second antenna proximate the first antenna to within approximately one wavelength or less. Therefore, Trikha cannot anticipate claim 39.

For the reasons discussed above, Applicants submit that independent claims 1, 26 and 39, and their corresponding dependent claims 2-25, 27-31, and 40-52 define patentable subject matter over the cited art.

Dependent claims 2, 8, 14, 19, 21-23, 44, 48, 50-52

Applicants also respectfully submit that dependent claims 2, 8, 14, 19, 21, 22, 23, 44, 48, 50, 51, and 52 are patentably distinct over Trikha, even if their corresponding independent claims are not.

Claims 2, 21, and 50 each include the limitation of a third antenna. Specifically, claim 2 includes a "third antenna connected with a third signal source via a third signal path," while claims 21 and 50 include "a first band tuning circuit having an impedance matched to the second antenna and a second band tuning circuit having an impedance matched to a third antenna." The Examiner asserts "it is inherent that Trikha's teaching applies to any number of antennas." However, the Examiner does not provide any rationale for this assertion, contrary to the requirements of MPEP 2112. "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d 743, 745, 49 U.S.P.Q.2d 1949, 1950-51 (Fed. Cir. 1999). Further, "in relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly

inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464, (Bd. Pat. App. & Inter. 1990). Throughout the specification, Trikha only discusses two antennas. Nowhere does Trikha teach or suggest a system with more than two antennas. The Examiner is requested to point out specific passages in Trikha that support the Examiner's assertions that Trikha applies to any number of antennas. Absent that, the rejection of claims 2, 21, and 50 must fail.

Claims 14, 19, 22, 23, 44, 48, 51, and 52 each include a plurality of impedance matching circuits (claims 14 and 44) or a plurality of band tuning circuits (claims 19, 22, 23, 48, 51, and 52) that are independently selectively connectable in parallel to the first signal path. These claims are supported in the specification on page 8, lines 27-29, which recites that "each of the plurality of impedance matching circuits 312, 316, 320 can be independently selectively connectable in parallel with the other tuning circuits to the transmission line." The Examiner asserts that Figures 1-4 of Trikha show independently controlled switches. However, in direct contrast to the Examiner's assertions, column 3, lines 64-66 and column 4, lines 19-22 of Trikha teach that all switches in Figures 1-4 are open or closed as a group. As a result, the switches of Trikha are not independently controlled, as required in each of claims 14, 19, 22, 23, 44, 48, 51, and 52. Because Trikha does not teach or suggest a plurality of impedance matching circuits/band tuning circuits that are independently selectively connectable in parallel to the first signal path, Trikha cannot anticipate claims 14, 19, 22, 23, 44, 48, 51, and 52. Accordingly, Applicants submit that claims 14, 19, 22, 23, 44, 48, 51, and 52 define patentable subject matter over the cited art.

Claim 8 includes the limitation of "an antenna housing capable of housing at least the first and second antennas." The Examiner asserts that it is inherent that a number of small antennas can be housed together in a common antenna housing. However, the Examiner again does not provide any rationale for this assertion as required by MPEP 2112. As with claims 2, 21, and 50, the mere fact that a certain thing may result from a given set of circumstances is not sufficient. The Examiner is requested to point out specific passages in Trikha that clearly support the Examiner's

assertions that housing a number of antennas in a common antenna housing is inherent in Trikha. Absent that, the rejection of claim 8 must fail.

§103 Rejections

The Examiner rejected claims 32-38 under 35 U.S.C. §103(a) as unpatentable over Trikha in view of U.S. Patent 4,549,312 to Michaels et al., herein referred to as Michaels. Applicants request reconsideration.²

Dependent claim 32

Claim 32 depends indirectly from independent claim 26. The Examiner rejects claim 32, relying primarily on Trikha and relying on Michaels solely for the proposition that it was known to have "antenna impedance adjustment [] based on external interference." As pointed out above, the primary reference -- Trikha -- fails to teach or suggest the "first antenna operatively connected to a first signal circuit and a second antenna simultaneously operatively connected to a second signal circuit," as required by claim 32. Nothing in Michaels cures this defect, nor does the Examiner even assert that it does. Accordingly, it is impossible for the combination of Trikha and Michaels to teach or suggest the subject matter of claim 32, assuming *arguendo* such a combination is proper. Therefore, the §103 rejection of claim 32 must fail.

Claims 33-38

Assuming, *arguendo*, that there is motivation to combine Michaels with Trikha, Applicants contend that independent claim 33 is not obvious over this combination. As amended, claim 33 includes the limitation of disposing the second antenna "proximate to the first antenna to within approximately one wavelength or less" (emphasis added). As discussed above, Trikha does not teach or suggest two operatively connected antennas disposed within approximately one

² Because the subject matter claimed is patentably distinct over the combination of Trikha modified according to Michaels, the discussion of the §103 rejections will assume, *arguendo*, that the combination is proper.

wavelength or less. Further, Michaels does not solve the deficiencies of Trikha because the radio receiver of Michaels includes only one antenna. Therefore, neither Trikha nor Michaels, alone or in combination, teach all of the limitations of independent claim 33. Accordingly, independent claim 33, and corresponding dependent claims 34-38, define patentable subject matter over the cited art.

Applicants also respectfully submit that dependent claim 35 is patentably distinct over the cited art, even if corresponding independent claim 33 is not. Claim 35 includes "a third signal source connected with a third antenna via a third signal path," which is not taught or suggested by either Trikha or Michaels, alone or in combination. As discussed above, Trikha does not teach or suggest that his or her invention may apply to a system with more than two antennas. Further, Michaels does not correct the deficiencies of Trikha because Michaels only discusses a single antenna. Therefore, claim 35 is patentably distinct over the cited art.

Further, the Examiner's rejection of claim 35, which is stated in its entirety as "see Claims 1 and 21 for Trikha's teaching," is fundamentally flawed. Claim 35 includes "a third signal source connected with a third antenna via a third signal path." This limitation is not found in either claim 1 or claim 21, and none of the Examiner's arguments regarding the rejections of claims 1 and 21 address this limitation. As such, it appears that the Examiner has ignored this express limitation. Accordingly, the rejection of claim 35 is procedurally flawed and must therefore fail.

In addition, Applicants respectfully submit that dependent claims 36 and 38 are patentably distinct over the cited art, even if corresponding independent claim 33 is not. Claim 36 includes "a plurality of selectively connectable parallel impedance circuits" (emphasis added), while claim 38 includes "selecting from the plurality of parallel impedance circuits one or more parallel impedance circuits...and attaching the one or more selected parallel impedance circuits in parallel with the first signal path" (emphasis added). These aspects of claims 36 and 38 are not taught or suggested by Trikha or Michaels, alone or in combination. As discussed above, Trikha does not teach or suggest selectively connecting parallel impedance circuits. Further, Michaels does not correct the

deficiencies of Trikha on this point. Therefore, claims 36 and 38 are patentably distinct over the cited art.

New Claims

In addition to the amendments to the pending claims, Applicants also add new claims 53-56. Claims 53 and 54 depend from claims 1 and 26, respectively, and claim that the “first antenna is disposed proximate said second antenna to within approximately one wavelength or less” (emphasis added). As discussed above, neither Trikha, Michaels, nor the combination of Trikha with Michaels teaches this limitation. Therefore, new claims 53 and 54 are patentably distinct from the cited art.

Claim 55 depends from claim 39 and claims that the “first and second antennas are simultaneously operatively connected to respective first and second signal circuit via respective first and second signal paths” (emphasis added). As discussed above, neither Trikha, Michaels, nor the combination of Trikha with Michaels teaches this limitation. Therefore, new claim 55 is patentably distinct from the cited art.

Claim 56 is a new independent method claim that includes “detecting whether a first signal source operatively connected with a first antenna via a first signal path is active or inactive” and “detecting whether a second signal source simultaneously operatively connected with a second antenna via a second signal path is active or inactive” (emphasis added). Because neither Trikha, Michaels, nor the combination of Trikha with Michaels teaches this method, as discussed above, claim 56 is patentably distinct from the cited art.

Summary

As presented above, Applicants believe that the claims are patentably distinct from the cited art. Therefore, Applicants respectfully request that the Examiner reconsider the rejections and permit the application to move forward in allowance.

If any issues remain unresolved, Applicants request that the Examiner call the undersigned attorney so that any such issues may be expeditiously resolved.

Respectfully submitted,

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